

**California Regional Water Quality Control Board
Santa Ana Region**

December 2, 2022

ITEM: 16

SUBJECT: Public Hearing to Consider Adoption of Basin Plan Amendments to Incorporate Total Maximum Daily Loads (TMDLs) for Copper (Cu) in Newport Bay, California

DISCUSSION:

The Project Summary below provides a summary of salient points regarding the proposed Copper (Cu) TMDLs for Newport Bay that are presented in detail in the Draft Substitute Environmental Document for Proposed Basin Plan Amendments for Total Maximum Daily Loads (TMDLs) for Copper (Cu) in Newport Bay, Orange County California 2022 (SED 2022). The Draft SED 2022 includes the Staff Report 2022 (Appendix A) and Responses to Comments documents (Appendix B). These documents, the draft Basin Plan Amendments, and other relevant documents are posted on the Water Board's ftp site at: <https://ftp.waterboards.ca.gov/>

Username: rb8download

Password: Region8_public

choose Copper TMDLs folder, then 2022 Cu TMDLs Documents

The record of this matter is lengthy. Prior (2016, 2018) versions of the Basin Plan Amendment (BPA) documents, including the draft BPAs, draft SED 2022 and Staff Reports, as well as study reports are posted on the Board's website at: https://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_metals.html BPA documents for 2021 are posted on the Board's ftp site at the above address.

Project Summary

Background

TMDLs are required pursuant to the federal Clean Water Act (CWA) Section 303(d) and implementing regulations when the water quality standards of a water body are found to be impaired as a result of one or more pollutants, such as Cu.

Water quality standards include numeric and narrative water quality objectives, the beneficial uses of the waterbody, and the antidegradation policy. The purpose of a TMDL is to achieve and maintain those standards.

The TMDL identifies the total amount of a pollutant that can enter a waterbody without causing violations of the standards, and allocates that amount among the significant sources. TMDLs may be expressed in different forms, including concentration-based and mass-based TMDLs.

In 2002, the U.S. Environmental Protection Agency (USEPA) established Toxics TMDLs, including Cu TMDLs, for Newport Bay and San Diego Creek, the principal tributary to the Bay. USEPA's data assessment found that the Bay was impaired for Cu due to dissolved Cu concentrations that exceeded the applicable numeric water quality objectives, established in the USEPA's California Toxics Rule (CTR) (2000) which are the acute and chronic criteria = 4.8 and 3.1 µg/L, respectively. At concentrations above the CTR criteria, Cu is toxic to aquatic organisms, including plants and animals that form the base of the food chain for other organisms, including fish and birds. As the result of dissolved Cu impairment, the biological beneficial uses of Newport Bay are not maintained or protected.

USEPA's TMDLs identified discharges from Cu antifouling paints (AFPs) on boats as the most significant source of Cu to the Bay. USEPA's TMDLs require an approximate 92% reduction of Cu discharges from boats. USEPA also identified Cu concentrations in sediment as a possible source of impairment.

In response to USEPA's action to establish the TMDLs, the Santa Ana Water Board has implemented USEPA's Cu TMDLs in relevant permits, including the *Areawide Urban Storm Water Permit for the County of Orange, Orange County Flood Control District and the incorporated cities of Orange County within the Santa Ana Region*. Apart from discharge requirements on boatyards in the Bay, where boats are cleaned and repainted, the Board has not taken regulatory action to date to address Cu discharges from Cu AFPs on boats in the Bay.

Beginning in approximately 2009, Santa Ana Water Board staff initiated a review of the USEPA TMDLs, using water and sediment quality data more recent (2002-2014) than those evaluated by USEPA. Water Board staff employed the impairment assessment methodology adopted by the State Water Board in the *Water Quality Control Policy for Developing California's Section 303(d) List (established 2004, amended 2015)* (State Listing Policy), which differs from the data assessment approach used by USEPA.

Board staff's Impairment Assessment confirmed USEPA's findings that dissolved Cu concentrations resulted in water quality standards impairment of Newport Bay, and Cu AFPs on boats in the Bay are by far the predominant source of Cu discharges to the Bay. Water Board staff's Impairment Assessment initially found sediment impairment since sediment Cu concentrations exceeded older sediment Cu guidelines (NOAA guidelines). Sediments are no longer considered to be impaired since newer sediment guidelines are in place, but these initial exceedances warrant follow-up monitoring and investigation, as required by the State Water Board's *Water Quality Control Plan for Enclosed Bays and Estuaries of California – Sediment Quality Provisions* (2018) (Sediment Quality Provisions). (The sediment tasks of the proposed Cu TMDLs have been modified to implement the SQOs methodology, and the finding of sediment impairment was withdrawn pending further monitoring and investigation as required by the Sediment Quality Provisions.)

Newport Bay has been shown to be impaired by dissolved Cu in multiple CWA Section 303(d) reports of impaired waters developed by the State Water Board/Regional Water Board and approved by the USEPA beginning in 2006 and including the most recent report (2018). In addition, more recent data, including Anchor's study for the City of Newport Beach (2015-2016, 2019) and the California Department of Pesticide Regulation's (DPR) study (2019), confirm that the Bay continues to be impaired due to dissolved Cu. In short, Cu TMDLs for the Bay continue to be required.

The proposed Cu TMDLs (Attachments A and B to the tentative resolution) are based on updated data and scientific information, and newer State Water Board policy (State Listing Policy; Sediment Quality Provisions).

The proposed Cu TMDLs require an approximate 60% reduction in Cu discharges from boats, and include the provision that if the CTR chronic criterion for dissolved Cu is met before the 60% percent reduction is achieved, no further reduction in Cu discharges from boats is required. (The 60% required reduction for these Cu TMDLs vs. a 92% required reduction for USEPA's TMDLs is due to a lower number of boats estimate and a lower margin of safety.)

The proposed Cu TMDLs include numeric targets for dissolved Cu and sediment Cu, and an alternative SQOs target for sediment. If approved, the proposed Cu TMDLs will supersede those established by USEPA in 2002. (If the proposed Cu TMDLs are not approved, then the Water Board must continue to implement the Cu TMDLs established by USEPA. This implementation would need to include new regulatory actions by the Santa Ana Water Board to address Cu discharges from boats to meet the 92% reduction required in USEPA's Cu TMDLs.)

The proposed Cu TMDLs include a recommended Implementation Plan and Compliance Schedule (not included in USEPA's TMDLs). The proposed Implementation Plan specifies continued monitoring of Cu in both the water column and sediments, and requires that responsible dischargers, including the City of Newport Beach, the County of Orange and others, develop proposed plans and schedules whereby the TMDL allocations for boats are expected to be achieved. The Implementation Plan for the proposed Cu TMDLs identifies a number of potential compliance strategies that are to be evaluated, and may be included, in the dischargers' proposed plans. These strategies include the use of boat hull cleaning BMPs (e.g. the use of soft cloths or slip liners), and the conversion to lower leach rate Cu AFPs or alternative AFPs. These dischargers' proposed plans would be implemented upon Santa Ana Water Board approval.

The proposed schedule for achieving the Cu TMDLs is *as soon as possible but no later than 12 years from the date of final TMDL approval by all requisite agencies*, including the State Water Board, the Office of Administrative Law and USEPA. Final approval by USEPA is required for the TMDLs to become effective and to supersede USEPA's established Cu TMDLs for the Bay.

Environmental Review of the Proposed Cu TMDLs

As described in the draft SED 2022, Section 1.1., the Board is required to conduct environmental review of the potential environmental impacts of the reasonably foreseeable methods of compliance with the proposed Cu TMDLs. The analysis is to be presented in a Substitute Environmental Document, rather than an Environmental Impact Report, Negative Declaration or Initial Study.

Section 4.1 of the draft SED 2022 describes the reasonably foreseeable methods of compliance. The reasonably foreseeable methods of compliance evaluated in the draft SED 2022 include evaluation of tasks to: reduce Cu discharges from boats by the use of best management practices (BMPs) during hull cleaning and establishment of a diver education and certification program for underwater hull cleaning; the conversion of Cu AFPs on vessels to lower leach rate Cu AFPs or alternative (non-biocide or non-Cu biocide) AFPs; and the development and implementation of boater, marina owner/operator, and boatyard staff education programs. The potential impacts of monitoring and investigation activities are also assessed. (Lower leach rate Cu AFPs are now required per DPR's leach rate regulation.)

Santa Ana Water Board staff found that implementation of the reasonably foreseeable methods of compliance may have potentially significant effects on the environment with respect to water quality and biological resources (See draft SED 2022, Section 4.2.3. Environmental Checklist Analysis, IV. a, b (Biological Resources), and X. a (Hydrology and Water Quality)). These potential impacts may result from the use of alternative AFPs, including non-biocide and non-Cu AFPs, if such use is part of the dischargers' TMDL compliance strategies.

The use of non-biocide AFPs might allow the introduction of invasive species that could compete with native resident and migratory species in the Bay for habitat and food. Non-biocide paints may also contain ingredients (e.g., fluoropolymers) that could adversely affect the biota directly; however, limited data are currently available concerning such potential effects of non-biocide ingredients on aquatic organisms. Non-Cu biocide AFPs contain known biocides, such as zinc or an organic, and are regulated by DPR. These biocide paints are used to reduce biofouling on boat hulls, but may result in adverse effects on aquatic organisms. Mitigation measures are available to reduce these impacts. (Non-biocide AFPs are not regulated by DPR.)

In contrast to the potential impacts of implementing the reasonably foreseeable methods of compliance to achieve the proposed Cu TMDLs, the impairment of water quality standards in Newport Bay due to dissolved Cu is known and continues.

As discussed above, the Cu TMDLs are required by law under section 303(d) of the federal Clean Water Act (CWA), and USEPA has already established TMDLs for Cu in Newport Bay. If the Santa Ana Water Board does not adopt the proposed Cu TMDLs, the Board will be required to fully implement USEPA's Cu TMDLs, which have a higher likelihood of adverse environmental impacts. To the extent that the mitigation measures identified in the draft SED 2022 are deemed infeasible by dischargers, the necessity of implementing USEPA's Cu TMDLs to remove the impairment in Upper and Lower Newport Bay (an action required to achieve the express, national policy of the Clean Water Act) remains.

Based on the entirety of the record of this matter and consideration of all relevant factors, Santa Ana Water Board staff believe that the environmental benefits of these proposed Cu TMDLs outweigh the potential unavoidable adverse environmental effects, and that such potential adverse environmental effects are acceptable under the circumstances. Accordingly, Water Board staff drafted the Findings and Statement of Overriding Considerations delineated in the draft SED 2022, Section 8.0. for future Board consideration.

Public Participation

As noted above, the record of consideration of the proposed Cu TMDLs is lengthy. Extensive efforts have made been made to solicit public participation and input. These efforts include:

July 2015: Two CEQA Scoping meetings (to solicit public/agency input on the issues that should be addressed in the environmental review of the proposed TMDLs);
Informational presentation to Santa Ana Water Board regarding the proposed Cu TMDLs presented at the Board meeting.

*Public Hearing to consider adoption of Basin Plan Amendments for Cu TMDLs for Newport Bay
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August 2016: Proposed Cu TMDLs (and proposed Non-TMDL Metals Action Plans that are no longer a part of the proposed Basin Plan amendments) and supporting documents released for public/agency review. First public/agency written comment period initiated. Notice of Public Hearing/Filing for October 2016 published.

October 2016: Santa Ana Water Board public hearing to consider adoption of the proposed amendments changed to a public workshop in light of the volume of comments received.

October 2016: Santa Ana Water Board public workshop held.

June 2018: Revised proposed Cu TMDLs and supporting documents released for public review and comments. Water Board staff incorporated revisions based on comments received, additional data and changes in State Water Board policy. Second public/agency written comment period initiated. Notice of Public Hearing/Filing for August 2018 published.

August 2018: Santa Ana Water Board public hearing to consider adoption of the proposed amendments scheduled cancelled in light of the volume of comments received.

May 2019: Santa Ana Water Board staff conducted two public workshops regarding the proposed Cu TMDLs (and Non-TMDL Metals Action Plans which are no longer being considered).

June 2021: Revised proposed Cu TMDLs and supporting documents released for public review and comments. Third public/agency written comment period initiated. Notice of Santa Ana Water Board Public Hearing on September 17, 2021 to consider the proposed Cu TMDLs posted and published.

August 2021: Scheduled Water Board hearing noticed for September 17, 2021 changed to a public workshop. Written comments on proposed Cu TMDLs due on August 30, 2021.

September 2021: Santa Ana Water Board public workshop held. Water Board staff were directed to further work with dischargers on these TMDLs.

Technical workgroup meetings (three) held in 2021 with dischargers including the County of Orange, the City of Newport Beach and others.

January 2022: Alternative implementation plan submitted by the County of Orange and City of Newport Beach, and reviewed by Water Board Staff. The plan was determined to be unacceptable for the following reasons: 1 - the plan relies on the incorrect premise that the County and City (and any other local agency) cannot legally be identified as responsible parties; 2 – the plan places the burden of responsibility for the reduction of Cu discharges from Cu AFPs on the Water Board and other state agencies, including the Departments of Pesticide Regulation, Motor Vehicles and Boating and Waterways (over which the Water Board has no control); and 3 – the plan lacks a reasonably foreseeable method of implementation or implementation timeframe and fails to provide reasonable assurance that Cu impairments in Newport Bay will be addressed.

October 2022: Revised proposed Cu TMDLs and supporting documents released again for public review and comments. Notice of Santa Ana Water Board Public Hearing on December 2, 2022 to consider the proposed Cu TMDLs posted and published. Only oral comments will be accepted at Water Board hearing due to three prior written comment periods.

This list does not include the numerous discussions, in person and by conference calls, by Water Board staff with the City of Newport Beach, the County of Orange, DPR, Orange County Coastkeeper and other interested agencies and parties to discuss the proposed TMDLs.

Water Board staff have prepared responses to the written comments from October 2016, August 2018 and August 2021, and the oral comments presented at the public workshops. These responses are shown in Appendix B to the draft SED 2022.

Comments Received to Date and Responses

The volume of written comments and Board staff's written responses is extensive. See Appendix B of the draft SED 2022s. Key comments/responses are briefly summarized below:

1. *Comment - The Bay is not impaired for Cu, and the data used to assess impairment are outdated and not representative of current improving conditions. Cu TMDLs are not needed.

Response: Board staff conducted their Impairment Assessment in accordance with the methodology identified in the State Water Board's State Listing Policy, and the data show that the Bay is impaired for Cu. More recent data provided by the City of Newport Beach and the Department of Pesticide Regulation demonstrate continued dissolved Cu impairment in the Bay. In any case, USEPA has established Cu TMDLs for the Bay that must be implemented in the absence of the approval of the proposed Cu TMDLs by the Santa Ana Water Board.

2. *Comment - The City of Newport Beach [and Orange County] are not responsible dischargers for reducing copper in Newport Bay and have no authority to reduce copper discharges from boats

*Response - The City (and County) are dischargers because they have management authority for tidelands and submerged lands (marinas and moorings are located on/over tidelands and submerged lands).
The City (and County) have the ability to implement and/or require the implementation of BMPs and to provide incentives for the use of lower leach rate Cu AFPs and/or non-biocide AFPs*

3. Comment - The proposed Copper TMDLs unlawfully attempt to force local agencies to solve a conflict caused by the Regional Water Board's failure to convince the Legislature or its sister agencies to ban copper AFP. The Water Board's authority is in conflict with the Department of Pesticide Regulation (DPR) since the TMDLs require the City of Newport Beach (City) and others to restrict or ban the use of legally-available Cu AFPs. The proposed Copper TMDLs require the City of Newport Beach and other dischargers to restrict or ban the use of legally-available Cu AFPs – this is a conflict with DPR's authority to regulate the sale and use of Cu AFPs.

Response: The proposed Cu TMDLs do not require that the City or others ban the use of Cu AFPs, but require the dischargers to consider the use of lower leach rate Cu AFPs and non-biocide AFPs as part of their compliance strategies.

The proposed Implementation Plan for the TMDLs recommends that the City and other responsible dischargers consider whether incentives to boat owners/marina owners/operators to switch to alternative AFPs or lower leach rate Cu AFPs might be included as part of the TMDLs compliance plans they would be required to develop. There is no conflict between the authorities of the Board and DPR: DPR has authority over the sale and use of Cu (and other biocide) AFPs; the Water Board has authority to regulate waste discharges so as to achieve and maintain water quality standards. The proposed Cu TMDLs support the implementation of DPR's maximum Cu leach rate regulation, which inherently include the use of best management practices during hull cleaning

4. Comment - The proposed Cu TMDLs are impractical if not impossible for the responsible dischargers to implement.

Response: The proposed Cu TMDLs require the dischargers to develop their own proposed plans whereby they expect to achieve compliance with the TMDLs, and to implement those plans. The dischargers have considerable flexibility to identify workable compliance strategies. The Implementation Plan in the proposed TMDLs identifies a number of potential strategies, including the use of boat hull cleaning BMPs, diver (underwater boat cleaners) certification and education programs, and education programs for the boatyard/boat owners, marina owner/operators and boatyard staff. These strategies are already being implemented in other areas where Cu TMDLs have been adopted, including Shelter Island Yacht Basin in San Diego and Marina del Rey in Los Angeles.

5. Comment - The proposed Cu TMDLs are unlawful because alternatives to Cu AFPs are not effective or available.

Response: This assertion is incorrect. Some alternative AFPs are available and effective. Further, the proposed TMDLs do not require conversions to alternative AFPs, only that such conversions be considered by the responsible dischargers as part of their proposed compliance plans. In addition, conversion to lower leach rate Cu AFPs is an option.

6. Comment - Rather than take action now to adopt/implement the proposed Cu TMDLs, the Board should wait to assess the effects of: (1) the implementation of DPR's maximum Cu AFP leach rate regulation; (2) the implementation of dredging projects in the Bay; and/or (3) the implementation of brake pad legislation that addresses Cu loads that arise from this source and can enter surface waters, including Newport Bay.

Response: First, as stated above, in the absence of approval of the proposed Cu TMDLs that supersede those established by USEPA in 2002, the Santa Ana Water Board must implement/continue to implement the USEPA Cu TMDLs. If the proposed TMDLs are not adopted, Board staff would likely recommend that the Board adopt orders for the responsible dischargers that would include requirements comparable to those included in the proposed Cu TMDLs Implementation Plan, e.g., requirements that the dischargers formulate their own proposed implementation plans whereby they expect to achieve compliance with the TMDLs and that those plans be implemented upon approval. Monitoring and reporting requirements would also be included.

Second, the implementation of brake pad legislation is expected to improve the quality of runoff to the Bay but that would not be sufficient to address the far more significant source of Cu discharges to the Bay from Cu AFPs. The Cu TMDLs cannot be achieved unless Cu discharges from Cu AFPs are reduced.

The alternatives of awaiting the water quality results of dredging and the implementation of DPR's Cu AFP leach rate regulation are addressed in the draft SED 2022 (see Section 5.3.a and 5.3.b.) In short, as discussed in the SED, neither option provides the requisite assurance that water quality standards will be achieved.

7. Comment - The compliance schedule is too short or too long

Response - Compliance is to be achieved as soon as possible but no later than 12 years from effective date of the TMDLs.

The Cu TMDLs includes an interim schedule for the reduction of Cu discharges from Cu AFPs – 20% reduction in 4yrs, 40% in 8yrs, 60% in 12yrs.

The Schedule is reasonable and allows time for the implementation of strategies such as BMPs, diver certification programs and diver/boater education programs. The Schedule also allows for conversions from Cu AFPs to lower leach rate Cu AFPs or alternative AFPs during routine maintenance of boat hulls

The Water Board has the authority to determine whether actions are being taken as soon as possible

8. Comment - The proposed Copper TMDLs should not include sediment requirements - if they are included, requirements should be based on the sediment quality objectives (SQOs) rather than older sediment guidelines

Response – Areas of the Bay where sediment Cu concentrations exceeded higher guidelines (Effects Range Median –ERM) are a concern and require further monitoring by SQOs methodology in addition to marina areas that were not evaluated

**The sediment target was revised, and now includes an alternative SQOs target, in addition to the numeric sediment Cu target, whereby sediments will be evaluated using the SQOs methodology - If the SQOs target is used for compliance, the sediment quality condition of Unimpacted or Likely Unimpacted must be met*

9. Comment - There was no peer review of the proposed TMDLs.

Response: External scientific peer review (pursuant to Health and Safety Code Section 57004) is not required if a new application of an adequately peer-reviewed product does not depart significantly from its scientific approach. Regional Water Board management is responsible to determine whether such review is necessary. Based on a memorandum prepared by Santa Ana Water Board staff (posted on the Water Board's ftp site), Water Board management found that no additional external scientific peer review is required for these TMDLs.

10. Comment - The Substitute Environmental Document fails to comply with the California Environmental Quality Act and implementation guidelines.

Response: The draft SED 2022 has been revised to address the concerns identified.

Next Steps

Water Board staff have responded to all written comments from the last three comment periods, and oral comments given in meetings, and will respond orally to oral comments at the December 2, 2022 Santa Ana Water Board hearing, where the Board will consider adoption of the proposed Cu TMDLs.